



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,484	11/28/2003	Jun-Ku Han	45545.18.0	1033
7590	08/19/2005		EXAMINER EASTHOM, KARL D	
John F. Dolan Fredrikson & Byron, P.A. 4000 Pillsbury Center 200 South Sixth Street Minneapolis, MN 55402-1425			ART UNIT	PAPER NUMBER
			2832	
DATE MAILED: 08/19/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,484

Applicant(s)

HAN ET AL.

Examiner

Karl D. Easthom

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2832

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

2. Claims 1-2 and 4-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Koyama (2005/0062581). Koyama discloses the claimed invention at Figs. 4a-4D, with resistance element 1, first and second conductive layers 12b, 13b on the upper surface, and first and second electrodes 12a, 13a on the lower surface. The first conductive layer 12b is conductively connected to the first electrode layer 12a under it, through the via or first connector 1c. The second conductive layer 13b is conductively connected to the second electrode layer 13a under it, through the via or first connector 1d. First conductive layer 12b substantially overlaps and faces second electrode layer 13a, while second conductive layer 12a substantially overlaps and faces first electrode layer 13b, as one can see by cutting out Fig. 4B, the top view, and layer it over Fig. 4A, the bottom view, where “substantially” is a term of degree and the tips of the triangles of the conductive and electrode layers overlap each other. In claim 2, the current path is as claimed. For claim 4, the gap at Figs. 4A and 4B is depicted as roughly 1/5-1/4 of the length at most. The thickness is more than 1/3 of the length, see par. 13, rendering the gap less than the thickness. Or see par. 56, with gap distance of 0.27mm, and thickness at par. 13 at 0.62mm. For claim 5, the polymer is PTC at par. 3. For claims 6-7, copper for the layers is

Art Unit: 2832

disclosed at par. 53. For claim 8, see the vias 1c and 1d noted above each on different sides. In claim 9, the vias are through holes (see col. 6 of Zhang et al. '510 where an aperture (hole) can be a closed or open cross section, the aperture or hole of Koyama an open cross section). For claim 10, the gap is rectangular. For claim 11, the electrodes are as claimed. In claims 12-13, the current paths are as claimed as they must be since the device is the same as that of applicant as claimed, and similar to that as disclosed.

3. Applicant's arguments filed 7/1/2005 have been fully considered but they are moot in view of the new grounds of rejection.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D. Easthom whose telephone number is (571) 272-1989.

The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

Art Unit: 2832

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karl D Easthom
Primary Examiner
Art Unit 2832

KDE